



Self-introduction

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Tropical Medicine
perspective:

- personalized
- narcissitic

MY FAMILY'S TROPICAL ODYSSEY

Background

Irish

Scottish

Oz hybrid

→ moved to Brisbane (almost-tropics)

Familial experiences with 'TROPICS'

Uncle Sean

Scotland → India (tea plantations)

died!

ague
[malaria]
(protozoa)

Familial experiences with 'TROPICS'

Uncle David

Germany → Africa
(cattle)

died!



Familial experiences with 'TROPICS'

Uncle Jean-Paul

France → Egypt
(work on dam)

died!



Familial experiences with 'TROPICS'

Uncle Rutger

Holland → East Indies
(spice plantations)

died!



Familial experiences with 'TROPICS'

Uncle Clint

USA → Panama
(work on canal)

died!



Familial experiences with 'TROPICS'

Uncle Jet

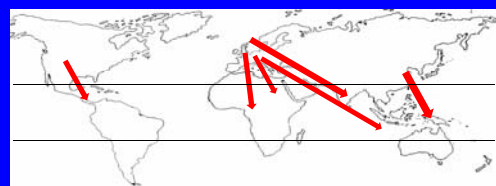
China → New Guinea
(gold mines)

died!



Tropics can be dangerous!

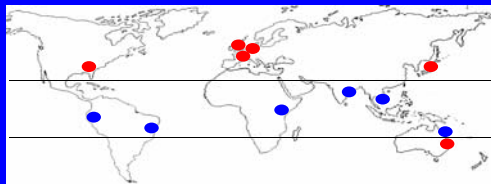
Presence of nasty infectious diseases



(six exemplars linked to colonial development)

Tropical Medicine

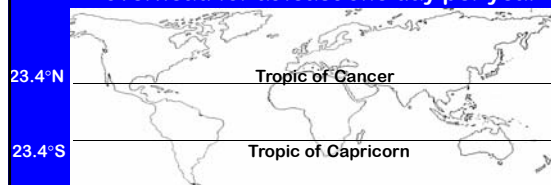
Field developed to protect health of colonists



early Schools/Institutes not in tropics

Tropics

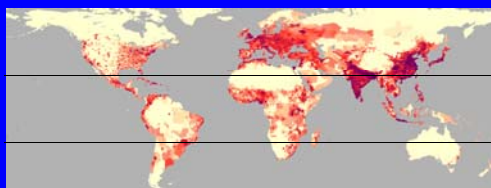
bound by latitudes where sun is directly overhead for at least one day per year



36% of land mass

Population

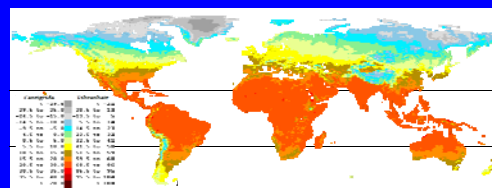
40% of people



~3 billion

Temperature

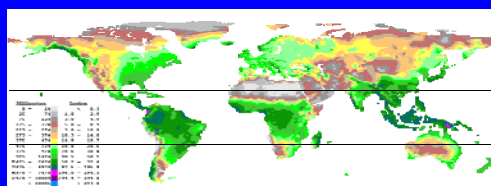
warm (year-long)



no winter

Rainfall

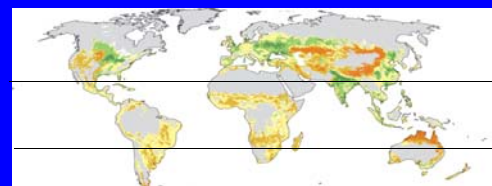
wet (60% global rainfall)



≥ 1 m per year

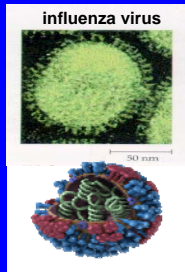
Agriculture

subsistence level (where possible)

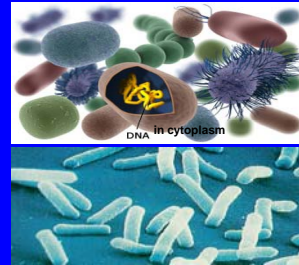


bulk cropping in temperate zones

VIRUSES: genetic vagrants!



BACTERIA: biochemical bags!



FUNGI: zombie-eaters!



PROTOZOA: 'first animals'!



HELMINTHS: squirmly worms!



ARTHROPODS: mini-vampires!



Exemplars of dermal lesions



Usually sensationalize
topic with gory images



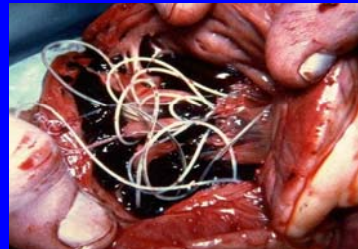
Lucky it is a public
pre-dinner talk



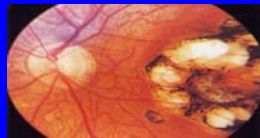
(sanitized images)



Vascular



Visceral



Enteric



Venereal



Cost of tropical diseases

Most common causes of mortality due to infectious diseases
(where cause of death is known, ~ 16 million per annum):

• acute respiratory infections	4,000,000
• acquired immunodeficiency syndrome	2,000,000
• diarrhoeal diseases	2,000,000
• tuberculosis (TB)	2,000,000
• malaria	2,000,000
• measles	2,000,000
• pertussis (whooping cough)	2,000,000
• tetanus	2,000,000
• meningitis	200,000
• hepatitis	160,000
• cholera	150,000
• diphtheria	100,000
• scarlet fever	20,000
• Japanese encephalitis	15,000
• dengue	14,000
• other communicable diseases	13,000
	1,700,000

TOO MANY!

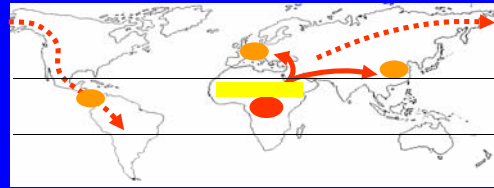
Epidemiology

Followed 3 main periods in human history:

1. Foundation (thousands of years ago)
2. Empire (hundreds of years ago)
3. Second Foundation (tens of years ago)

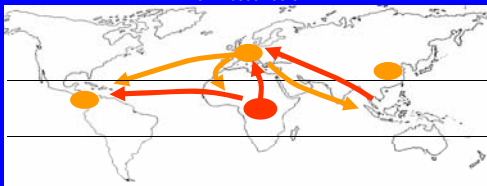
apologies to Asimov

1. FOUNDATION



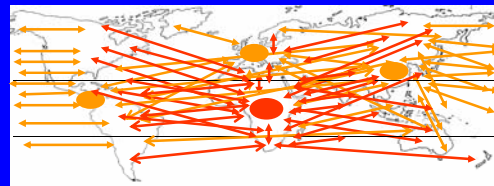
- ★ Humanoid African origins > 10,000 YA hunter/gatherers
Old World diseases (fevers, dysentery, lesions)
- ★ Out-of-Africa migrations >7,000 YA farmers → villagers
New World 'crowd' diseases (rashes, poxes, plagues, pneumonias)
- ★ Separation of New and Old Worlds (Sahara desert)

2. EMPIRE



- ★ >300 YA Explorers 'discover' tropical lands
encounter Old World diseases, spread New World diseases
- ★ 200 YA Slave trade, labour force tougher, more resistant
mixing of New and Old World peoples and diseases

3. SECOND FOUNDATION



- ★ 50 YA Globalization, population translocations (wars, migration,
international travel, trade, commerce, tourism, work, etc)
- ★ Emerging/re-emerging diseases, esp. zoonoses (rats/bats/birds)

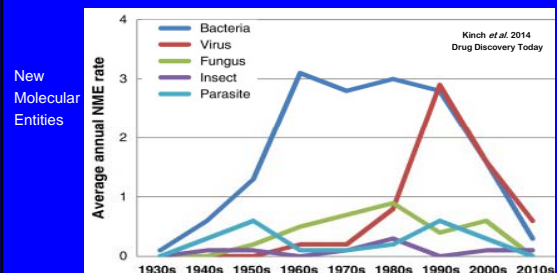
What can be done?

Disease management through:

- Drugs
- Vaccines
- Biological interventions



Drug discovery



Biological interventions (break cycle)



Sources

- people
- animals
- water
- food
- air

Biological interventions

Target:

- hygiene
- sanitation
- vectors
- reservoir hosts
- environments
- behaviours



'night-soil' pots

It is all about **education!**

Life in the tropics is tough!

